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June 1964

PHOTOGRAPHIC INTERPRETATION REPORT

ROCKET ENGINE TEST FACILITY  
KRASNOYARSK, USSR  
APRIL 1964



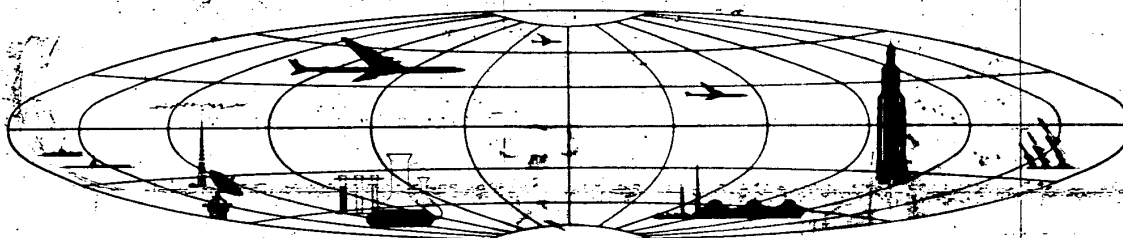
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## ROCKET ENGINE TEST FACILITY, KRASNOYARSK, USSR APRIL 1964

### SUMMARY

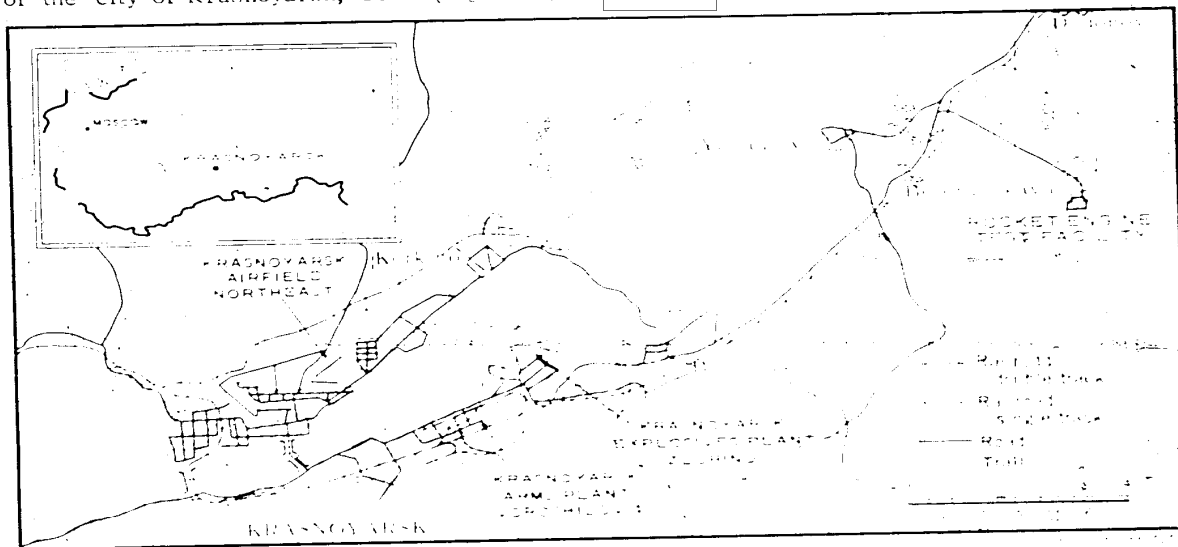
Recent photography of the Rocket Engine Test Facility at Krasnoyarsk, USSR, reveals additional details of the test stand, two piping systems, 23 previously unreported buildings (including two that may be parts of a horizontal solid-fuel rocket motor test facility), three additional rail spurs, a possible oxidizer unloading facility and storage area, a possible foundry, and numerous other details not visible

before. The new photography also permits more accurate measurements of the principal structures comprising the installation. The large size and complexity of this installation, its numerous large multistory buildings and elaborate rail net, and continued construction activity suggest that rocket engine manufacturing or research and development may take place here in addition to testing.

### INTRODUCTION

The Krasnoyarsk Rocket Engine Test Facility is located at 56-06N 93-26E, 21 nautical miles (nm) east-northeast of the city of Krasnoyarsk, USSR (Figure 1).

The facility may be engaged in testing some of the products of the Krasnoyarsk Arms Plant Voroshilov 4 and the Krasnoyarsk Explosives Plant Zlobino

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The facility occupies approximately 95 acres and is surrounded by a fence (Figure 2 and 3). The test stand is situated on the edge of a bluff which forms the east bank of the Tartat River. The test stand was present and the facility as a whole was more than half finished when it was first identified on photography of September 1961. Housing and support areas, which occupy the site of the village of Belorusskaya, have not changed significantly since 1951. Branches of the Krasnoyarsk-Dodonovo

rail and road systems serve the installation.

Small-scale photography of December 1963 was the basis for the previous report on this facility. 1/ The present report is based on photography from  

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April 1964, which provided relatively large-scale, nonstereo coverage of excellent quality. The new photography reveals greater detail and yields more accurate measurements. Table 1, keyed to Figure 3, presents the dimensions of the principal buildings.



FIGURE 2. KRASNOYARSK ROCKET ENGINE TEST FACILITY, NOVEMBER 1964

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## DESCRIPTION OF FACILITIES

The configuration of the vertical test stand is clearly apparent for the first time (Figures 2 and 4). A tall, slender structure on the top of the stand may be a crane used to lift engines and equipment into position for testing.

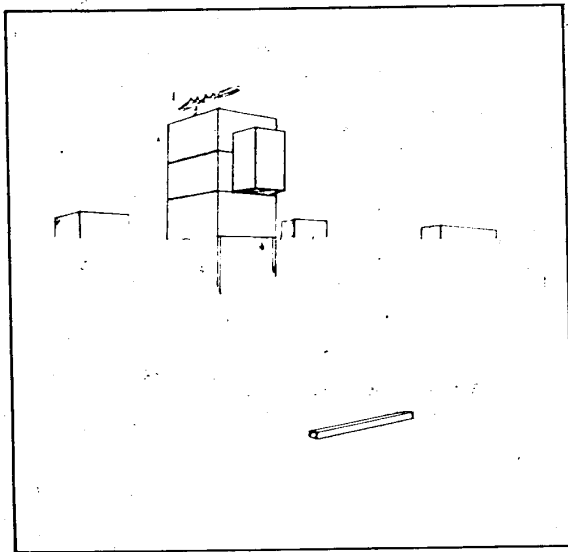


FIGURE 4. ARTIST'S CONCEPTION OF TEST STAND.

A possible horizontal solid-fuel rocket motor test facility comprising two buildings (items 2 and 3, Figure 3) is located in the valley below and west of the test stand (item 1). These buildings were dimly visible on KH-4 photography of February 1964; they may have been under construction at that time. The larger of the buildings resembles the main building at the horizontal test site near Peiping, China (Figure 5). The location of the buildings in a depression below and separate from the rest of the test facility is also similar to the arrangement of the installation near Peiping, which is clearly visible on REYHOLM photography of March 1964. Recently developed topographic

information indicates that the relief between the area of the possible LOX plant at Krasnoyarsk and the valley bottom near the two buildings is approximately 190 feet. Cleared areas which could be interpreted as blast pads or blast deflectors extend northwest of the smaller building and southeast of the larger one.

Two aboveground piping systems are visible on photography of April 1964 (Figure 3). The first of these systems originates west of Building 26, proceeds southward past Building 6, turns east and crosses three roads, and then turns north and appears to enter the side of Building 8, the possible LOX plant. The pipe is of large diameter and is approximately 23 feet above ground level at the point where it crosses the road leading from the checkout building (item 7) to the test stand. The point of origin is probably a deep well; the system probably conveys water for cooling purposes. Although it is not possible to trace the pipe to the area of the test stand, water from the system may be used to cool the flame deflector at the stand. The second piping system, probably for fuel, originates near a newly observed rail spur which ends just beyond Building 22. This

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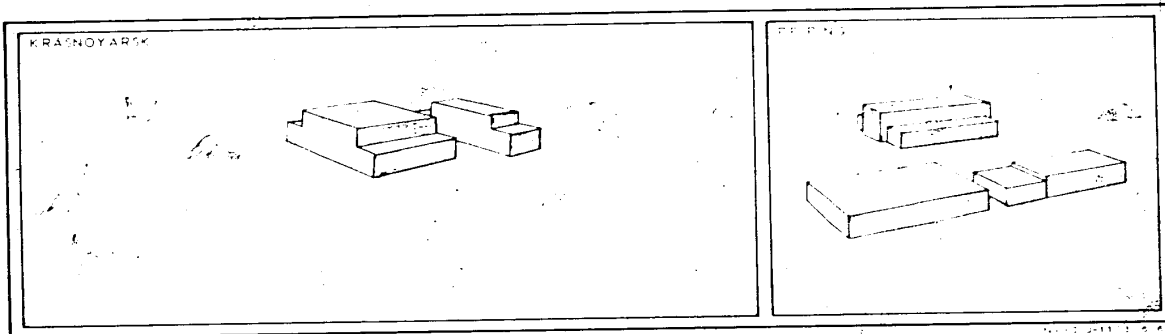


FIGURE 5. PERSPECTIVE DRAWINGS OF SIMILAR BUILDINGS AT THE POSSIBLE HORIZONTAL SOLID-FUEL ROCKET MOTOR TEST FACILITY AT KRASNOYARSK, USSR, AND AT THE HORIZONTAL TEST SITE NEAR PEIPING, CHINA.

on the products of the foundry. Building 18 is the only building in the installation with multiple stacks.

An additional newly observed rail spur terminates beside Building 19. This building, together with a small, separately walled area (item 20, Figure 3) containing three structures, is interpreted as a possible unloading and storage facility for oxidizers, which are normally unloaded and stored in areas separate from those used for fuels.

Four additional small buildings, the reinterpretation of item 5 as a building rather than a bunker, and Building 4 make a total of six structures in the immediate vicinity of the test stand. It is difficult to determine the control building or buildings from which rocket engine

tests are conducted; Building 4, previously identified as the possible control building, appears to have a deeply concave roof, generally parabolic in cross section.

A large administration building (item 27) and several operational buildings and smaller buildings were newly observed in April 1964. Buildings 28, 29, and 30, located outside the security fence, are probably quarters for security personnel or visitors.

The interpretation of Building 8 as a possible LOX plant remains unchanged, but it is now apparent that two large tanks are situated just east of the building. The larger tank is 44 feet in diameter and 24 feet high and the smaller is 25 feet in diameter and 20 feet high; both may be Dewar tanks.

### CONCLUSIONS

The large size of the test stand suggests that (1) it has two or more firing positions, (2) it was designed to test multiple engine configurations, or (3) a large part of the structure is devoted to fuel and oxidizer storage and instrumentation. The rest of the installation seems disproportionately large to support a single-position test stand.

The size and complexity of the installation, with its numerous large, multistory buildings, elaborate network of rail spurs, and large support and housing areas, strongly suggests that it is a rocket engine research and development facility or that it may be engaged in the actual manufacture of rocket engines in addition to being a test facility.

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The interpretation of items 2 and 3 as a possible horizontal test facility appears to be reasonable because (1) the location of the buildings and the configuration of the larger of the two are similar to the known facility near Peiping,

(2) there are no other known large-scale test facilities for solid-fuel motors in the Soviet Union, and (3) it is difficult to assign another function to these two buildings with their associated possible blast deflectors.

## REFERENCES

## MAPS OR CHARTS

SAC, US Air Target Chart, Series 200, Sheet 0150-23HL, 2d ed, May 63, scale 1:200,000 (SECRET)

## DOCUMENT

1. NPIC, R-180/64, *Suspect Rocket Test Facility, Krasnoyarsk, USSR, December 1963*, Mar 64 (TOP SECRET DINAR CHESS RUFF)

## REQUIREMENT

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## NPIC PROJECT

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